What is claimed is:

1. An electric motor which comprises:

a stator (28) having a polyphase stator winding;

a rotor (36; 36'; 36''), separated from the stator (28) by an air gap (39), which has on its side facing toward the air gap a plurality of salient poles with pole shoes (260A, 260B, 260C, 260D; 292A, 292B, 292C, 292D) facing the air gap (39) and, on its side facing away from the air gap, a magnetic yoke (200), whose pole shoes (260A, 260B, 260C, 260D; 292A, 292B, 292C, 292D) serve to generate a sinusoidal induced voltage (u_{ind}) in the stator winding;

a recess (266A, 266B, 266C, 266D), provided between the magnetic yoke (200) and a pole shoe (260A, 260B, 260C, 260D; 292A, 292B, 292C, 292D), in which at least one permanent magnet (262A, 262B, 262C, 262D; 290A, 290B, 290C, 290D) is arranged, which recess (266A, 266B, 266C, 266D) is adjoined on each side of the at least one permanent magnet (262A, 262B, 262C, 262D; 290A, 290B, 290C, 290D), approximately in the circumferential direction, by a low magnetic conductivity region that adjoins, on its side facing toward the air gap (39), a retaining segment (270', 270'') made of ferromagnetic material, which segment serves to connect the pole shoe (260A, 260B, 260C, 260D; 292A, 292B, 292C, 292D) mechanically to the magnetic yoke; and

at least one magnetic shunt (274', 274''; 290; 292; 296A) that extends from a source segment (264A'; 298A), located closer to the air gap (39), of the at least one permanent magnet (262A, 262B, 262C, 262D; 290A, 290B, 290C, 290D), through a low magnetic conductivity region adjacent to that segment, to a target region (270''') of the relevant retaining segment (270', 270'') in order to inject at that target region (270''') an additional magnetic flux from that permanent magnet (262A, 262B, 262C, 262D).

2. The electric motor according to claim 1,

wherein the magnetic yoke (200) of the rotor (36'; 36''), its pole shoes (260A, 260B, 260C, 260D; 292A, 292B, 292C, 292D), the retaining segments (270', 270''), and the magnetic shunts (274', 274''; 290; 292; 296A) are formed as laminations (116) of a lamination stack.

3. The electric motor according to claim 2, wherein, in order to produce a low magnetic conductivity region at the relevant location, at least one recess (266A'; 294A', 294A'') is formed in the laminations.

4. The electric motor according to claim 1, wherein the retaining segments (270', 270'') made of ferromagnetic material are, during operation, at least locally substantially magnetically saturated.

5. The electric motor according to claim 1, wherein a magnetic shunt (274', 274''; 290; 292) extends to a target region (270''') that is connected to the relevant pole shoe (260A, 260B, 260C, 260D; 292A, 292B, 292C, 292D) via a part (270') of the retaining segment that is at least locally saturated during operation.

6. The electric motor according to claim 1, wherein a magnetic shunt (274', 274''; 290; 292) extends to a target region (270''') that is connected to the magnetic yoke (200) via a part (270'') of the retaining segment that is at least locally saturated during operation.

7. The electric motor according to claim 1, wherein the at least one permanent magnet (262A, 262B, 262C, 262D) has, on its side located closer to the air gap (39) and facing toward an adjacent low magnetic conductivity region, a beveled edge (264A', 264A'', ...) which forms a beveled interface of that permanent magnet (262A, 262B, 262C, 262D).

8. The electric motor according to claim 7, wherein the magnetic shunt (274', 274'') extends substantially from that beveled interface (264A', 264A'', ...) to the target region (270''').

9. The electric motor according to claim 7, wherein the pole shoe (260A, 260B, 260C, 260D) covers at least a part of the beveled interface (264A', 264A'', ...).

10. The electric motor according to claim 1, wherein the at least one permanent magnet (290A; 290A') has, on its side facing toward a low magnetic conductivity region associated with it, a cross section whose lateral boundary transitions substantially orthogonally into an interface of that permanent magnet (262A, 262B, 262C, 262D) facing toward the pole shoe (260A, 260B, 260C, 260D),

and the magnetic shunt (296A) extends from a source region (298A), located closer to the air gap (39), of that lateral boundary through the low magnetic conductivity region to the target region (270''') of the retaining segment.

11. The electric motor according to claim 10, wherein the pole shoe (260A, 260B, 260C, 260D) extends beyond the lateral boundary.

12. The electric motor according to claim 1, wherein a ratio, of the width of a rotor magnet (214; 262; 290A) to the pole pitch of the relevant rotor pole (206), is selected so as to minimize generation of any cogging torque.

13. The electric motor according to claim 1, wherein the average angular extension (beta) of a rotor magnet (214; 262, 290) is approximately 115 to 135° el.

14. A method of influencing the shape of the induced voltage (u_{ind}) of an electronically commutated electric motor having a rotor and several pole shoes,

wherein the rotor (36'; 36'') comprises, between its pole shoes (260A, 260B, 260C, 260D; 292A, 292B, 292C, 292D) and its magnetic yoke (200), pockets into which permanent magnets (262A, 262B, 262C, 262D) are inserted, and adjacent to those pockets, viewed in the circumferential direction, are located low magnetic conductivity zones that are delimited, in the direction toward the air gap (39), by lands that work during operation substantially in a region of magnetic saturation,

comprising the step of:

injecting an additional magnetic flux from an adjacent permanent magnet (262A, 262B, 262C, 262D), through the low magnetic conductivity zone, into respective lands at a respective target region (270''').

15. The method according to claim 14, further comprising injecting said magnetic flux into a target region (270''') that lies approximately in a center part of the relevant land (270', 270'').

16. The method according to claim 14, further comprising injecting said magnetic flux into a target region (270''') of the relevant land (270', 270'') that lies in the vicinity of a pole boundary (271) with an adjacent rotor pole.

17. The method according to claim 14, further comprising injecting said additional magnetic flux from a region of the permanent magnet (262A, 262B, 262C, 262D) adjacent to the air gap (39), through a magnetic shunt (274', 274''; 290; 292) in the interior of the rotor (36'; 26''), into the target region (270''').

18. The method according to claim 15, further comprising injecting said additional magnetic flux from a region of the permanent magnet (262A, 262B, 262C, 262D) adjacent to the air gap (39), through a magnetic shunt (274', 274''; 290; 292) in the interior of the rotor (36'; 26''), into the target region (270''').

19. The method according to claim 16, further comprising injecting said additional magnetic flux from a region of the permanent magnet (262A, 262B, 262C, 262D) adjacent to the air gap (39), through a magnetic shunt (274', 274''; 290; 292) in the interior of the rotor (36'; 26''), into the target region (270''').